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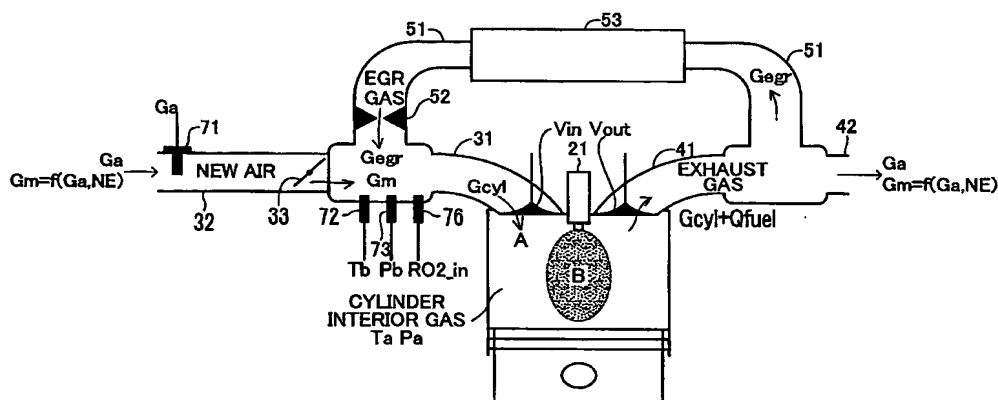
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(54) Title: **NO_x DISCHARGE QUANTITY ESTIMATION METHOD FOR INTERNAL COMBUSTION ENGINE**



(57) Abstract: In an NO_x discharge quantity estimation method for an internal combustion engine equipped with an EGR apparatus, the gas components (e.g., oxygen molecules and NO_x) of intake gas taken into a combustion chamber are assumed to be uniformly distributed throughout the entire region of the combustion chamber. Under such assumption, the combustion chamber is divided into a combustion region (region B) and a non-combustion region (region A) by making use of the ratio of the "mass of oxygen consumed as a result of combustion" to the "total mass of oxygen taken in the combustion chamber." Further, under the assumption that NO_x generated as a result of combustion remains in the region B after combustion, and NO_x present in the region A before combustion due to circulation of EGR gas is conserved after combustion, the quantity of NO_x discharged from the exhaust passage to the outside is calculated in consideration of not only the quantity of combustion-generated NO_x in the region B but also the quantity of circulated NO_x in the region A.

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